

**CHICAGO POWER
ELECTRIC SYSTEMS**

1.5 Amp Onboard Battery Charger

Model 93258

ASSEMBLY AND OPERATING INSTRUCTIONS



Because of continuing improvements, actual product may differ slightly from photo.



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Visit our Web site at <http://www.harborfreight.com>

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For technical questions and replacement parts, please call 1-800-444-3353

Rev 07i

Specifications

Construction:	Molded PolyPlastic Body	Output:	12 VDC at 1.5 AMPS
Power Requirements:	120 VAC, 60 Hz	Required Power Input Cord:	3-prong grounded power cord, see chart on page 6
Battery Cables	24" L x 18 AWG	Charge Controller:	Automatically changes to "float" charge when battery is fully charged. LED charged indicator lights.
Safety Features:	Self-resetting circuit breaker Reverse polarity protected Thermal overload protected	Net Weight:	2.0 Lbs.
Dimensions:	6- ⁵ / ₈ " L x 3- ⁹ / ₁₆ " W x 1- ⁹ / ₁₆ " H		

Save This Manual

You will need the manual for the safety warnings and precautions, assembly instructions, operating and maintenance procedures, parts list and diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep the manual and invoice in a safe and dry place for future reference.

Safety Warnings and Precautions

WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this tool!

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate battery charger in explosive atmospheres, such as in the presence of flammable liquids or dust.** Batteries and battery chargers may create sparks which may ignite the dust or fumes. Caution must be exercised when charging, hydrogen, an explosive gas, is released when charging lead-acid batteries. Always allow proper ventilation to the charger and battery and keep the hood open during use.
3. **Keep bystanders, children, and visitors away while operating a battery charger.** Distractions can cause you to lose control. Protect others in the work area from debris such as corrosion materials and sparks. Provide barriers or shields as needed.
4. **Grounded battery chargers must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt whether the outlet is properly grounded.** If the battery charger should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
5. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators.** There is an increased risk of electric shock if your body is grounded.
6. **Do not expose battery charger to rain or wet conditions.** Water entering a battery charger will increase the risk of electric shock.
7. **Do not abuse the Battery Cables. Never use the Battery Cables to carry the tool. Keep the Battery Cables away from heat, oil, sharp edges, or moving parts. Replace damaged Battery Cables immediately.** Damaged Battery Cables increase the risk of electric shock.

Personal Safety

8. **Stay alert. Watch what you are doing, and use common sense when operating a battery charger. Do not use a battery charger while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating a battery charger may result in serious personal injury.
9. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
10. **Do not overreach. Keep proper footing and balance at all times during installation.** Proper footing and balance enables better control in unexpected situations.
11. **Use safety equipment. Always wear eye protection.** Always wear ANSI approved splash resistant safety eye goggles and heavy work gloves when working on or around lead-acid batteries. Wear long sleeve shirt, long pants and work shoes. Using personal safety devices reduce the risk for injury.
12. **People with pacemakers should consult their physician(s) before use.** Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure.

Battery Charger Use and Care

13. **Use bolts and included clamps to secure and support the battery charger to a stable platform.** This battery charger is designed to be installed on the compartment wall, battery holder or other structure near the vehicle battery.
14. **Do not force the battery charger. Use the correct battery charger for your application.** The correct battery charger will do the job better and safer at the rate for which it is designed.
15. **Do not use the battery charger if the automatic control does not turn it on or off.** If you observe the LED lights not reacting roughly as expected according to the chart on page 8, disconnect and remove the Battery Charger from the vehicle.
16. **Disconnect the Power Cord Plug (not included) from the power source and from the charger before making any adjustments, changing accessories, storing the battery charger, or driving the vehicle.** Such preventive safety measures reduce the risk of accidents.
17. **Keep battery charger maintained and clean.** Properly maintained battery chargers are less likely to fail and are easier to control. Do not use a damaged battery charger. Tag damaged battery chargers "Do not use" until repaired.
18. **Check for misalignment or binding of support brackets, breakage of parts, and any other condition that may affect the battery charger operation. If damaged, have the battery charger serviced before using.** Many accidents are caused by poorly maintained battery chargers.
19. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.

Specific Safety Rules

1. Maintain labels and nameplates on the Battery Charger. These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2. Avoid contact with Battery Acid. If splashed, unplug Onboard Battery Charger and immediately wash affected area with clean water away from the battery and charger. Continue washing area until medical help arrives.
3. Turn vehicle ignition off before making cable connections. Vehicle's engine must be cooled down before making cable connections.

4. Connect Battery Charger cables to proper polarities. Connect black cable to the negative battery terminal, and the red cable to the positive battery terminal. Failure to do so could result in sparks, possible fire and severe personal injury.
5. Keep cables clear of fan blades, belts, pulleys, and other moving parts of the engine that may cause injury, or damage to the Battery Charger.
6. Use Battery Charger in well ventilated areas to prevent the accumulation of explosive gases.
7. Do not allow the Black and Red battery cables or terminals to touch. Failure to adhere to these directions could result in severe personal injury. If this happens, sparks will occur that can melt connection lugs, or other metal objects, and create the potential for fire. To help reduce the hazards involved, remove all jewelry, watches, and other metal articles before working near the battery.
8. **Use only with vehicles and boats with 12 volt electrical systems and lead-acid based batteries.**
9. Remove the keys from the vehicle before plugging in charger.
10. Keep extension cord off the ground and away from water.
11. Always connect the Line Cord to a Ground Fault Circuit Interrupter (GFCI) protected electrical outlet.
12. Do not attempt to start a vehicle while this charging unit is plugged in.
13. Periodically check on the progress of the trickle charge. Do not leave this product unattended for hours without periodically checking on it's operation.
14. Working near an engine is inherently dangerous: fans can start without warning even with the ignition off, belts will move rapidly while the engine is running, hazardous and flammable materials are present within the engine compartment, and radiator fins can cause serious cuts. If you are not qualified to work near such hazards, a qualified mechanic should install the charger.

Note: The charger is designed to work automatically, cycling on and off by sensing the battery voltage. It is mentioned above to not leave this product unattended for hours; this is because in some circumstances the Battery Charger can overheat if it is attempting to recharge a low battery, or one that is damaged or has sulfonated plates. **The charger is to be used on fully charged batteries in good condition. Its only purpose is to maintain the level of charge at approximately 12 volts.**

Battery Precautions

1. Read all instructions and warnings on the battery before charging it.
2. Do not expose the battery to rain or wet conditions.
3. To avoid damage of cable and plug, never pull the cable to disconnect the Battery Charger.
4. Do not use the Battery Charger if the cables or plugs are damaged.
5. Repairs should be carried out by a qualified technician.
6. Do not touch the battery poles with any conductive source.
7. If the battery is removed, do not store the battery in a box with other metal objects.

GROUNDING

WARNING!

Improperly connecting the grounding wire can result in the risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the power cord or plug is damaged. If damaged, have it repaired by a service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

GROUNDED TOOLS: TOOLS WITH THREE PRONG PLUGS

1. Tools marked with “Grounding Required” have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock.
2. The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool’s grounding system and must never be attached to an electrically “live” terminal.
3. Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances.

EXTENSION CORDS







1. **Grounded** tools require a three wire extension cord.
2. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage. **(See Figure C, next page.)**
3. The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord. **(See Figure C.)**
4. When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required. **(See Figure C.)**
5. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size. **(See Figure C.)**
6. If you are using an extension cord outdoors, make sure it is marked with the suffix

“W-A” (“W” in Canada) to indicate it is acceptable for outdoor use.

7. Make sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
8. Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS*					
NAMEPLATE AMPERES (At Full Load)	EXTENSION CORD LENGTH				
	25 Feet	50 Feet	75 Feet	100 Feet	150 Feet
0 - 2.0	18	18	18	18	16
2.1 - 3.4	18	18	18	16	14
3.5 - 5.0	18	18	16	14	12
5.1 - 7.0	18	16	14	12	12

SYMBOLOLOGY

	Double Insulated
	Canadian Standards Association
	Underwriters Laboratories, Inc.
	Volts Alternating Current
	Amperes
	No Load Revolutions per Minute (RPM)

Unpacking

When unpacking, check to make sure that the product is intact and undamaged.

If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual.

Installation

The Battery Charger must be installed near the battery in the vehicle. Brackets are provided for this purpose. You may mount the Battery Charger against the vehicle battery or on the motor compartment wall. Be sure to allow at least 2-1/2" clearance in front of the Plug in Access door.

1. **Motor Compartment Wall mounting:** Use Brackets A and B as shown in Figure 1. Using the supplied bolts, attach the brackets and the Battery Charger to the motor compartment wall. Be careful not to damage any wires, hoses or other components when attaching.
2. **Battery mounting:** Use all three brackets as shown in Figure 2 to mount the Battery Charger against the vehicle battery. All brackets are bolted together, and Bracket C is slipped underneath the battery.
3. Ensure that the ignition is off. Connect the Red cable to the Positive pole of the battery. Connect the Black cable to the Negative pole of the battery. Make sure that there is a good connection between the cables and the battery posts. Make sure that all connections are tight.

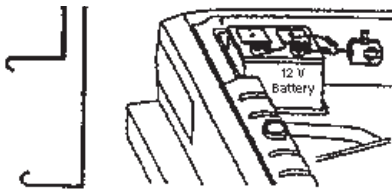
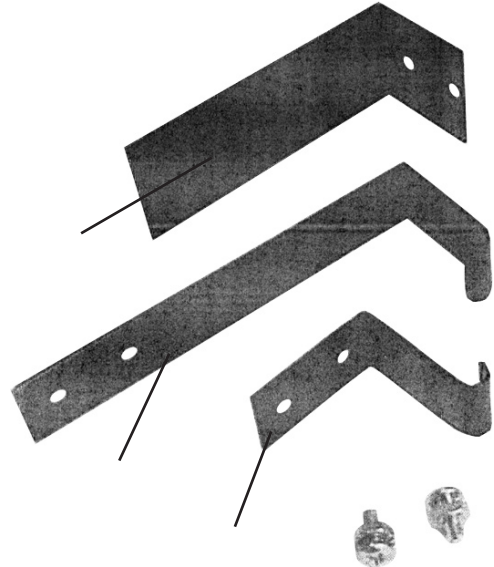


Figure 1

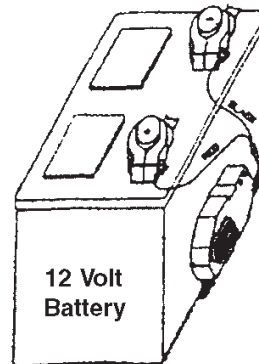
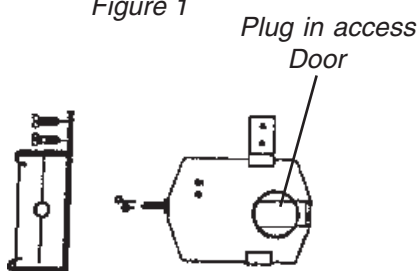


Figure 2



WARNING: Do not damage any cables, hoses or components when installing the brackets of battery Charger.

Be sure the Battery Charger is firmly attached and will not come loose during normal driving or an unforeseen sudden stop.

Periodically check the Battery Charger to be sure it remains in place. Make any adjustments as needed.

WARNING: If the battery Charger comes loose, it may become damaged or do damage to engine components.

Operation

Caution: The Onboard Battery Charger is not acid resistant. Be careful not to spill acid during battery maintenance, and inspect the Onboard Battery Charger carefully before use.

1. With the vehicle turned off, plug the 3 wire Power Cord (not included) into the Battery Charger and then into an appropriate, GFCI protected outlet.
2. Observe the LED lights on the Battery Charger to determine the current status of the charger and battery.

LED Color	ON / OFF	Condition
Green	OFF	Check power outlet for 120 Volts AC or check for reversed polarity.
Green	ON	Indicates correct polarity.
Orange	OFF	Battery voltage is at least 1 volt less than 14 VDC, and unit is charging battery.
Orange	ON	Battery charger voltage is approx. 14 VDC, and charging has stopped.

In general, a lighted Green LED indicates that battery polarity is correct. A lighted Orange LED indicates that the battery has finished charging.

3. When the battery is fully charged, the Battery Charger will automatically shut off. This will be indicated by the Orange LED illuminating.
4. **WARNING:** Be sure to unplug the power cord from the charger before operating the vehicle.

Maintenance

1. Protect the Battery Charger from damage which may be caused by flooding or accumulation of corrosive or greasy dirt. Occasionally wipe down the case and power cords with a slightly damp cloth. **Be careful not to touch energized terminals.** You may use a light detergent or grease cutter.
2. Periodically check the Battery Charger mounting to be sure it remains firm. If the Battery Charger comes loose, it can easily be damaged or damage other components within your vehicle engine compartment.
3. Avoid corrosion of the battery terminals. Clean them periodically with a base solution such as dissolved baking soda (not included). You may wish to install anticorrosion battery post pads (not included).
4. The Battery Charger has no user serviceable parts. Not assembly diagram or parts list is included in this manual.

LIMITED 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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